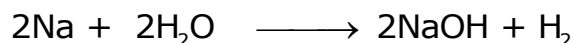


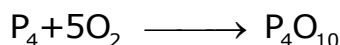
Name_____

Chemistry I: Stoichiometry **3**Period_____ Date_____ **SHOW all work. No work no score!!!!**

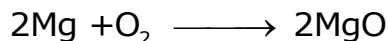
1. Sodium reacts with water to form sodium hydroxide and hydrogen gas. If 90.0 grams of sodium is dropped into water, how many liters of hydrogen at STP would be produced?



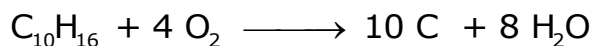
2. The incandescent white of a fireworks display is caused by the reaction of phosphorous with O_2 to give P_4O_{10} . If 25.0 grams of phosphorus is ignited in a flask containing oxygen at STP, how many grams of P_4O_{10} are formed?



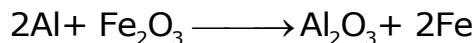
3. Magnesium burns in oxygen to produce magnesium oxide. If 10.5 g of magnesium is ignited in a flask containing oxygen at STP, how many grams of magnesium oxide are produced?



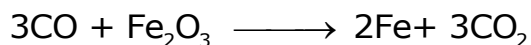
4. Turpentine ($\text{C}_{10}\text{H}_{16}$) burns in air (O_2) to produce carbon (C) and hydrogen hydroxide (H_2O). How many grams of carbon are produced when 861 g are completely burned?



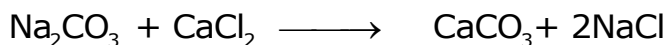
5. The reaction of powdered aluminum and iron (II) oxide, produces so much heat the iron that forms is molten. Suppose that in one batch starts with 115 g Al. How much iron (III) oxide would be needed?



One of the steps in the production of iron utilizes the following chemical reaction:



6. What mass of Fe_2O_3 would react with 500.0 liters of CO at STP?
7. What volume of carbon dioxide (CO_2) at STP is produced from 1000 grams of Fe_2O_3 ?
8. What mass of iron (Fe) is produced when 3000 mL of CO_2 is produced at STP?
9. If 460 g of calcium chloride (CaCl_2) reacts with sodium carbonate; how many grams calcium carbonate will be made?



10. A 16d common nail weighs 9.25 g and is made of iron. How much rust will be made when this nail is completely rusted away?

